IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A process for the preparation of polysiobutenylphenol-containing Mannich adducts by

a) alkylation of a phenol with highly reactive polyisobutene having a number average molecular weight of less than 1000 and a polydispersity of less than 3.0 at below about 50 °C in the presence of an alkylation catalyst;

b) reaction of the reaction product from a) with

b1) an aldehyde chosen from formaldehyde, an oligomer and a polymer of formaldehyde and

b2) at least one amine which has at least one primary or at least one secondary amino function to form a reaction mixture,

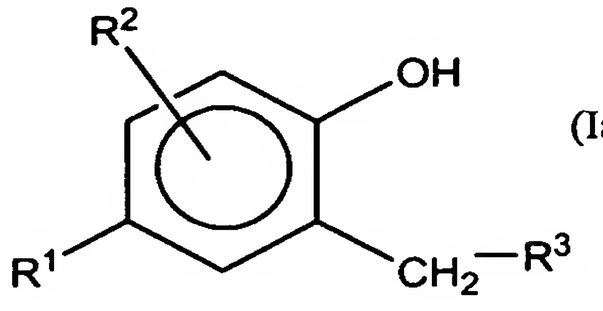
wherein the reaction mixture from b) is fractionated by column chromatography over an acidic stationary phase by multistage elution with

- at least one hydrocarbon and then

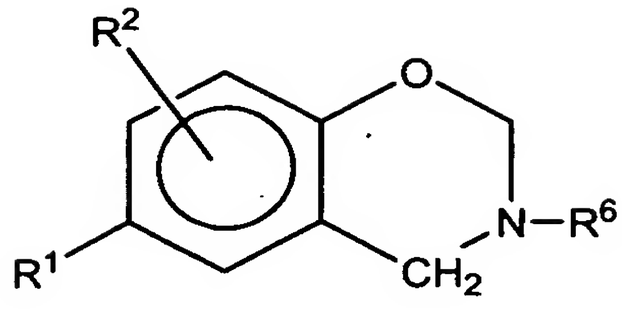
- at least one basic alcohol/water mixture.

Claim 2 (Previously Presented) The process as claimed in claim 1, wherein the amine is 3-(dimethylamino)-n-propylamine, di[3-(dimethylamino)-n-propyl]amine, dimethylamine, diethylamine or morpholine.

Claim 3 (Currently Amended) The process as claimed in claim 1, ~~wherein an~~ which is carried out to form an adduct mixture ~~is obtained which comprises~~ comprising at least 40 mol% of compounds of the formula Ia and/or Ib,



(Ia)



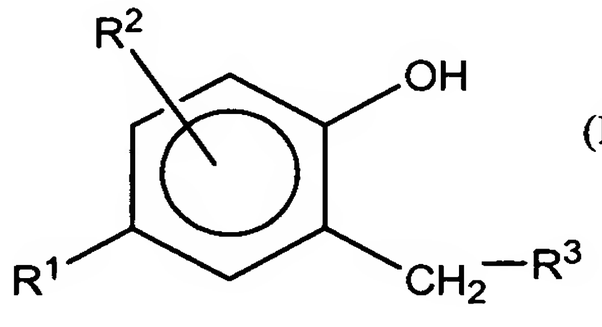
(Ib)

where

R^1 is a terminally bonded polyisobutenyl radical,

R^2 is H, C_1- to C_{20}-alkyl, C_1- to C_{20}-alkoxy, hydroxyl, a polyalkylenyl radical or $CH_2NR^4R^5$, where R^4 and R^5 have the meanings stated below, and

R^3 is NR^4R^5, where R^4 and R^5, independently of one another, are selected from the group consisting of H, C_1- to C_{20}-alkyl, C3- to C_8-cycloalkyl and C_1- to C_{20}-alkoxy radicals which may be interrupted and/or substituted by N and O heteroatoms, and phenol radicals of the formula II



(Ia)

where R^1 and R^2 are as defined above;

with the proviso that R^4 and R^5 are not simultaneously H or phenol radicals of the formula II; or R^4 and R^5, together with the N atom to which they are bonded, form a 5-, 6- or 7-membered cyclic structure which has one or two heteroatoms selected from N and O and may be substituted by one, two or three C_1- to C_6-alkyl radicals; and

R^6 is a radical R^4 or R^5 other than H.

Claim 4 (Previously Presented) The process as claimed in claim 1, wherein an adduct having a polydispersity of from 1.1 to 3.5 is obtained.

Claim 5 (Previously Presented) The process as claimed in claim 1, wherein R^1 has a number average molecular weight of from 300 to 850.

Claim 6 (Canceled)

Claim 7 (Previously Presented) The process as claimed in claim 1, wherein the basic alcohol/water mixture is a mixture of

a) from 75 to 99.5% by weight of at least one C_2- to C_4-alcohol,

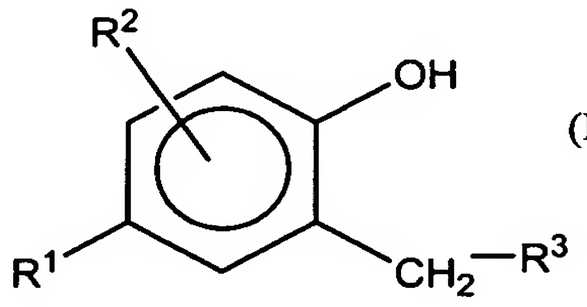
b) from 0.4 to 24.4% by weight of water, and

c) from 0.1 to 15% by weight of at least one amine which is volatile at room temperature.

Claim 8 (Currently Amended) The process as claimed in claim 1, ~~wherein the~~ which is carried out to form an adduct mixture ~~obtained includes~~ comprising from 0 to 20 mol% of polyisobutenylphenols from reaction step a) which have not been further reacted.

Claim 9 (Previously Presented) A Mannich adduct obtained by the process as claimed in claim 1.

Claim 10 (Currently Amended) A Mannich adduct comprising at least one compound of the formula Ia and/or Ib,



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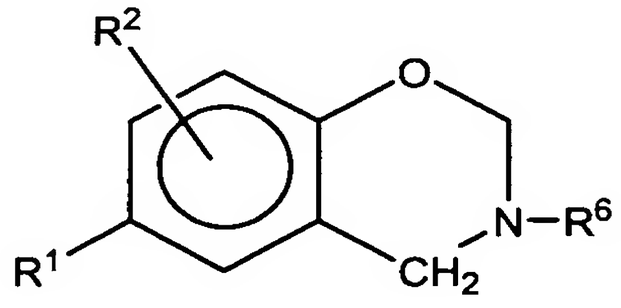


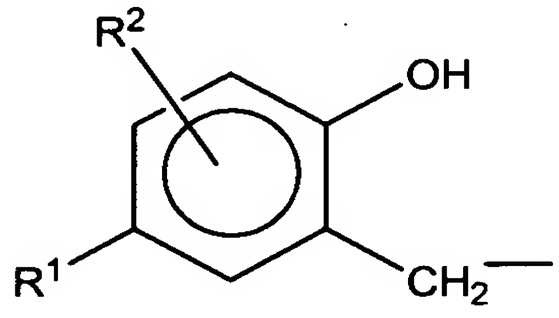
(Ib)

where

R^1 is a terminally bonded polyisobutenyl radical,

R^2 is $CH_2NR^{14}R^{15}$ ~~and~~ where R^{14} and R^{15} ~~is~~ , independently of one another, at least one of a dimethylamino group, a diethylamino group, a methylethylamino group, and di-n-propylamino group, a diisopropylamino group, a diisobutylamino group, a di-sec-butylamino group, a di-tert-butylamino group, a dipentylamino group, a dihexylamino group, a dicyclopentylamino group, a dicyclohexylamino group, and a diphenylamino group[[.]] ,

R^3 is NR^4R^5, where R^4 and R^5, independently of one another, are selected from the group consisting of H, C_1- to C_{20}-alkyl, [[C3]] C_3- to C_8-cycloalkyl and C_1- to C_{20}-alkoxy radicals which may be interrupted and/or substituted by N and O heteroatoms, and phenol radicals of the formula II



(II)

where R^1 and R^2 are as defined above;

with the proviso that R^4 and R^5 are not simultaneously H or phenol radicals of the formula II; or R^4 and R^5 together with the N atom to which they are bonded, form a 5-, 6- or 7-membered cyclic structure which has one or two N and O heteroatoms and may be substituted by one, two or three C_1- to C_6-alkyl radicals; and

R^6 is a radical R^4 or R^5 other than H.

Claim 11 (Canceled).

Claim 12 (Previously Presented): An additive concentrate containing, in addition to conventional additive components, at least one Mannich adduct as claimed in claim 9 in amounts of from 0.1 to 99.9% by weight.

Claim 13 (Previously Presented): A fuel composition containing a main amount of a liquid hydrocarbon fuel and an amount, having detergent activity, of at least one adduct as claimed in claim 9.

Claim 14 (Canceled).

Claim 15 (Canceled).

Claim 16 (Previously Presented): An additive concentrate containing, in addition to conventional additive components, at least one Mannich adduct as claimed in claim 10 in amounts of from 0.1 to 99.9% by weight

Claim 17 (Previously Presented): A fuel composition containing a main amount of a liquid hydrocarbon fuel and an amount, having detergent activity, of at least one adduct as claimed in claim 10.

Claim 18 (Canceled).

Claim 19 (Currently Amended): The process as claimed in claim 1, ~~wherein the~~ which is carried out to form an adduct mixture ~~obtained includes~~ comprising from 1 to 15 mol% of polyisobutenylphenols from reaction step a) which have not been further reacted.

Claim 20 (Previously Presented): An additive concentrate containing, in addition to conventional additive components, at least one Mannich adduct as claimed in claim 9 in amounts of from 0.5 to 80% by weight.

Claim 21 (Previously Presented): An additive concentrate containing, in addition to conventional additive components, at least one Mannich adduct as claimed in claim 10 in amounts of from 0.5 to 80% by weight.

Claim 22 (Previously Presented): A method for preparing a detergitized fuel or lubricant composition, said process comprising

adding the Mannich adduct claimed in claim 9 to a fuel or a lubricant composition.

Claim 23 (Previously Presented): A method for preparing a detergitized fuel or lubricant composition, said process comprising adding the Mannich adduct claimed in claim 10 to a fuel or a lubricant composition.

Claim 24 (Previously Presented): The process as claimed in Claim 1, wherein the highly reactive polyisobutene has a number average molecular weight of less than 900.

Claim 25 (Previously Presented): The process as claimed in Claim 1, wherein the alkylation of the phenol is carried out at below 35 °C.

Claim 26 (Previously Presented): The process as claimed in Claim 1, wherein the Mannich adduct has a polydispersity of from 1.05 to 3.5.

Claim 27 (Previously Presented): The process as claimed in Claim 1, wherein the Mannich adduct has a polydispersity of from 1.1 to 1.9.

Claim 28 (Previously Presented): A process for making a polyisobutenyl phenol-containing Mannich adduct, comprising:

akylating a phenol with a highly reactive polyisobutene having a number average molecular with of less than 1000 and a polydispersity of less than 3.0 at below about 50 °C in the presence of an alkylation catalyst to form a first reaction product;

reacting the first reaction product with an aldehyde selected from the group consisting of formaldehyde, an oligomer of formaldehyde and a polymer of formaldehyde, and at least one amine selected from the group consisting of an amine having at least one primary group and an amine having at least one secondary amino function, to form a second reaction product;

fractionating the second reaction product by a column chromatography over an acidic stationary phase by multistage elution with at least one hydrocarbon and then at least one basic alcohol/water mixture.

Claim 29 (Previously Presented): A process for making a polyisobutenyl phenol-containing Mannich adduct, comprising:

alkylating a phenol with a highly reactive polyisobutene having a number average molecular weight of less than 1000 and a polydispersity of less than 3.0 at below about 50 °C in the presence of an alkylation catalyst to provide a first reaction product;

reacting the first reaction product with an aldehyde selected from the group consisting of formaldehyde, an oligomer of formaldehyde, and a polymer of formaldehyde, and at least

one amine selected from the group consisting of an amine having at least one primary function and an amine having at least one secondary amino function, to form a second reaction product;

fractionating the second reaction product by chromatography over an acidic stationary phase by multistage elution with at least one hydrocarbon and then at least one basic alcohol/water mixture comprising from 75 to 99% by weight of at least one C_2- to C_4-alcohol; from 0.4 to 24.4% by weight of water; and from 0.1 to 15% by weight of at least one amine which is volatile at room temperature.

Claim 30 (Previously Presented): The process as claimed in Claim 3, wherein the adduct mixture comprises a compound of formula Ia wherein R^3 is $N(CH_3)_2$.

Claim 31 (Previously Presented): The process as claimed in Claim 3, wherein the adduct mixture comprises a compound of formula Ia wherein R^3 is $N(Bu)_2$ and Bu are butyl groups independently selected from the group consisting of n-butyl, iso-butyl, sec-butyl, and tert-butyl.

Claim 32 (Previously Presented): The process as claimed in Claim 1, wherein the phenol is at least one of an unsubstituted phenol or an alkyl substituted phenol.

Claim 33 (Previously Presented): A Mannich adduct obtained by the process as claimed in Claim 32.

Claim 34 (Previously Presented): The process as claimed in Claim 1, wherein the phenol is 2-methyl phenol.

Claim 35 (Previously Presented): A Mannich adduct obtained by the process as claimed in Claim 34.

Claim 36 (Canceled).

Claim 37 (Canceled).

Claim 38 (Previously Presented): The process as claimed in Claim 1, wherein the amine is at least one secondary amine of formula HNR^4R^5, wherein R^4 and R^5 are independently a C_1-C_{20}-alkyl radical which may be at least one of interrupted and substituted by at least one of N and O.

Claim 39 (Previously Presented): A Mannich adduct obtained by the process as claimed in Claim 38.

Claim 40 (Previously Presented): The process as claimed in Claim 38, wherein at least one of the R^4 and R^5 groups is a C_1-C_{20}-alkyl radical that is at least one of interrupted and substituted by at least one of N and O, wherein the N and O are substituted by at least one of H, a C_1-C_6-alkyl group, an aryl group and a hetaryl group.

Claim 41 (Previously Presented): A Mannich adduct obtained by the process as claimed in Claim 40.

Claim 42 (Previously Presented): The process as claimed in Claim 1, wherein the amine is at least one secondary amine of formula HNR^4R^5 selected from the group consisting of dimethylamine, diethylamine, methylethylamine, di-n-propylamine, diisopropylamine, diisobutylamine, di-sec-butylamine, di-tert-butylamine, dipentylamine, dihexylamine, dicyclopentylamine, dicyclohexylamine and diphenylamine.

Claim 43 (Previously Presented): A Mannich adduct obtained by the process as claimed in Claim 42.

Claims 44-48 (Canceled).

Claim 49 (Previously Presented): The process as claimed in Claim 28, wherein the phenol is at least one of an unsubstituted phenol or an alkyl substituted phenol.

Claim 50 (Previously Presented): The process as claimed in Claim 28, wherein the phenol is 2-methyl phenol.

Claim 51 (Canceled).

Claim 52 (Previously Presented): The process as claimed in Claim 28, wherein the amine is at least one secondary amine of formula HNR^4R^5, wherein R^4 and R^5 are independently a C_1-C_{20}-alkyl radical which may be at least one of interrupted and substituted by at least one of N and O.

Claim 53 (Previously Presented): The process as claimed in Claim 52, wherein at least one of the R^4 and R^5 groups is a C_1-C_{20}-alkyl radical that is at least one of interrupted and substituted by at least one of N and O, wherein the N and O are substituted by at least one of H, a C_1-C_6-alkyl group, an aryl group and a hetaryl group.

Claim 54 (Previously Presented): The process as claimed in Claim 28, wherein the amine is at least one secondary amine of formula HNR^4R^5 selected from the group consisting of dimethylamine, diethylamine, methylethylamine, di-n-propylamine, diisopropylamine, diisobutylamine, di-sec-butylamine, di-tert-butylamine, dipentylamine, dihexylamine, dicyclopentylamine, dicyclohexylamine and diphenylamine.

Claim 55 (Previously Presented): The process as claimed in Claim 29, wherein the phenol is at least one of an unsubstituted phenol or an alkyl substituted phenol.

Claim 56 (Previously Presented): The process as claimed in Claim 29, wherein the phenol is 2-methyl phenol.

Claim 57 (Previously Presented): The process as claimed in Claim 29, wherein the amine is at least one secondary amine of formula HNR^4R^5, wherein R^4 and R^5 are substituents other than hydrogen.

Claim 58 (Previously Presented): The process as claimed in Claim 29, wherein the amine is at least one secondary amine of formula HNR^4R^5, wherein R^4 and R^5 are independently a C_1-C_{20}-alkyl radical which may be at least one of interrupted and substituted by at least one of N and O.

Claim 59 (Previously Presented): The process as claimed in Claim 58, wherein at least one of the R^4 and R^5 groups is a C_1-C_{20}-alkyl radical that is at least one of interrupted and substituted by at least one of N and O, wherein the N and O are substituted by at least one of H, a C_1-C_6-alkyl group, and aryl group and a hetaryl group.

Claim 60 (Previously Presented): The process as claimed in Claim 29, wherein the amine is at least one secondary amine of formula HNR^4R^5 selected from the group consisting of dimethylamine, diethylamine, methylethylamine, di-n-propylamine, diisopropylamine, diisobutylamine, di-sec-butylamine, di-tert-butylamine, dipentylamine, dihexylamine, dicyclopentylamine, dicyclohexylamine and diphenylamine.

Claim 61 (Previously Presented): The additive concentrate as claimed in Claim 16, wherein the phenol of the Mannich adduct is at least one of an unsubstituted phenol or an alkyl substituted phenol.

Claim 62 (Previously Presented): The additive concentrate as claimed in Claim 16, wherein the phenol of the Mannich adduct is 2-methyl phenol.

Claim 63 (Previously Presented): The additive concentrate as claimed in Claim 16, wherein the amine of the Mannich adduct is at least one secondary amine of formula HNR^4R^5, wherein R^4 and R^5 are substituents other than hydrogen.

Claim 64 (Previously Presented): The additive concentrate as claimed in Claim 16, wherein the amine of the Mannich adduct is at least one secondary amine of formula

HNR^4R^5, wherein R^4 and R^5 are independently a C_1-C_{20}-alkyl radical which may be at least one of interrupted and substituted by at least one of N and O.

Claim 65 (Previously Presented): The additive concentrate as claimed in Claim 64, wherein at least one of the R^4 and R^5 groups is a C_1-C_{20}-alkyl radical that is at least one of interrupted and substituted by at least one of N and O, wherein the N and O are substituted by at least one of H, a C_1-C_6-alkyl group, an aryl group and a hetaryl group.

Claim 66 (Canceled).

Claim 67 (Previously Presented): The fuel composition as claimed in Claim 17, wherein the phenol of the Mannich adduct is at least one of an unsubstituted phenol or an alkyl substituted phenol.

Claim 68 (Previously Presented): The fuel composition as claimed in Claim 17, wherein the phenol of the Mannich adduct is 2-methyl phenol.

Claim 69 (Previously Presented): The fuel composition as claimed in Claim 17, wherein the amine of the Mannich adduct is at least one secondary amine of formula HNR^4R^5, wherein R^4 and R^5 are substituents other than hydrogen.

Claim 70 (Previously Presented): The fuel composition as claimed in Claim 17, wherein the amine of the Mannich adduct is at least one secondary amine of formula HNR^4R^5, wherein R^4 and R^5 are independently a C_1-C_{20}-alkyl radical which may be at least one of interrupted and substituted by at least one of N and O.

Claim 71 (Previously Presented): The fuel composition as claimed in Claim 70, wherein at least one of the R^4 and R^5 groups is a C_1-C_{20}-alkyl radical that is at least one of interrupted and substituted by at least one of N and O, wherein the N and O are substituted by at least one of H, a C_1-C_6-alkyl group, an aryl group and a hetaryl group.

Claim 72 (Canceled).

Claim 73 (Previously Presented): The lubricant composition as claimed in Claim 82, wherein the phenol of the Mannich adduct is at least one of an unsubstituted phenol or an alkyl substituted phenol.

Claim 74 (Previously Presented): The lubricant composition as claimed in Claim 82, wherein the phenol of the Mannich adduct is 2-methyl phenol.

Claim 75 (Previously Presented): The lubricant composition as claimed in Claim 82, wherein the amine of the Mannich adduct is at least one secondary amine of formula HNR^4R^5, wherein R^4 and R^5 are substituents other than hydrogen.

Claim 76 (Previously Presented): The lubricant composition as claimed in Claim 82, wherein the amine of the Mannich adduct is at least one secondary amine of formula HNR^4R^5, wherein R^4 and R^5 are independently a C_1-C_{20}-alkyl radical which may be at least one of interrupted and substituted by at least one of N and O.

Claim 77 (Previously Presented): The lubricant composition as claimed in Claim 76, wherein at least one of the R^4 and R^5 groups is a C_1-C_{20}-alkyl radical that is at least one of interrupted and substituted by at least one of N and O, wherein the N and O are substituted by at least one of H, a C_1-C_6-alkyl group, an aryl group and a hetaryl group.

Claim 78 (Canceled).

Claim 79 (Previously Presented): The process as claimed in Claim 1, wherein the phenol is 2-methyl phenol and the amine is n-butylamine.

Claim 80 (Currently Amended): A lubricant composition containing a main amount of a liquid, a semisolid, or a solid lubricant and an amount, having detergent activity, of at least one Mannich adduct prepared by

a) alkylation of a phenol with a highly reactive polyisobutene having a number average molecular weight of less than 1000 and a polydispersity of less than 3.0 at below about 50 °C in the presence of an alkylation catalyst;

b) reaction of the reaction product from a) with

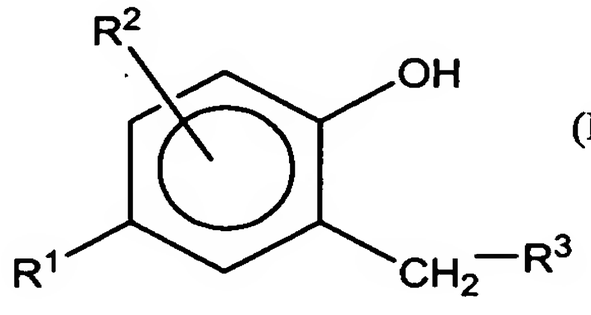
b1) an aldehyde chosen from formaldehyde, an oligomer of formaldehyde, and a polymer of formaldehyde, and

b2) at least one amine which has at least one primary or at least one secondary amino function,

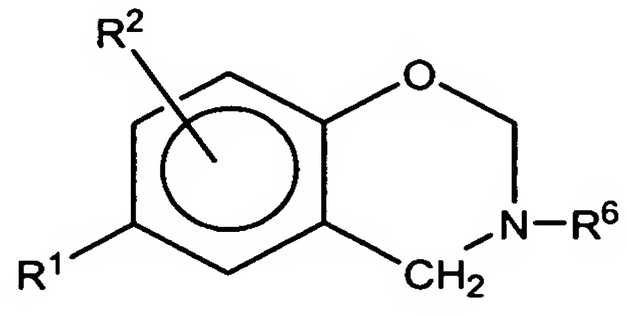
<u>wherein the phenol is 2-methyl phenol and the amine is an n-butylamine</u>.

Claim 81 (Canceled)

Claim 82 (Currently Amended): A lubricant composition containing a main amount of a liquid, a semisolid, or a solid lubricant and an amount, having detergent activity, of at least one adduct comprising at least one compound of the formula Ia and Ib,



(Ia)



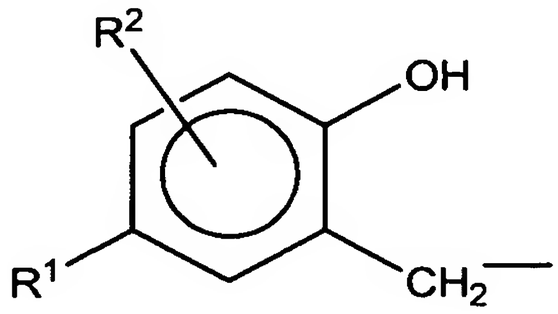
(Ib)

where

R^1 is a terminally bonded polyisobutenyl radical,

R^2 is H, C_1- to C_{20}-alkyl, C_1- to C_{20}-alkoxy, hydroxyl, a polyalkylenyl radical or $CH_2NR^4R^5$, where R^4 and R^5 have the meanings stated below, and

R^3 is NR^4R^5, where R^4 and R^5, independently of one another, are selected from the group consisting of H, C_1- to C_{20}-alkyl, C3- to C_8-cycloalkyl and C_1- to C_{20}-alkoxy radicals which may be interrupted and/or substituted by N and O heteroatoms, and phenol radicals of the formula II



(II)

where R^1 and R^2 are as defined above;

with the proviso that R^4 and R^5 are not simultaneously H or phenol radicals of the formula II; or R^4 and R^5, together with the N atom to which they are bonded, form a 5-, 6- or 7-membered cyclic structure which has one or two N and O heteroatoms and may be substituted by one, two or three C_1- to C_6-alkyl radicals; and

R^6 is a radical R^4 or R^5 other than H,

wherein the adduct includes a 2-methyl phenol unit and an n-butylamine unit.

Claim 83 (Canceled)

Claim 84 (Previously Presented): The process as claimed in Claim 28, wherein the phenol is 2-methyl phenol and the amine is n-butylamine.

Claim 85 (Previously Presented): The process as claimed in Claim 29, wherein the phenol is 2-methyl phenol and the amine is n-butylamine.

Claim 86 (New): The process as claimed in Claim 1, wherein the phenol is 2-methyl phenol and the amine is di-n-butylamine.

Claim 87 (New): The lubricant composition according to Claim 80, wherein the amine is n-butylamine.

Claim 88 (New): The lubricant composition according to Claim 80, wherein the amine is di-n-butylamine.

Claim 89 (New): The lubricant composition according to Claim 82, wherein the n-butylamine is a primary amine.

Claim 90 (New): The lubricant composition as claimed in Claim 82, wherein the n-butylamine is di-n-butylamine.

Claim 91 (New): The process as claimed in Claim 28, wherein the phenol is 2-methylphenol and the amine is di-n-butylamine.

Claim 92 (New): The process as claimed in Claim 29, wherein the phenol is 2-methylphenol and the amine is di-n-butylamine.

DISCUSSION OF THE AMENDMENT

Claims 1-5, 7-10, 12-13, 16-17, 19-35, 38-43, 49-50, 52-65, 67-71, 73-77, 79-80, 82, and 84-92 are active in the present application. Claims 6, 11, 14-15, 18, 36-37, 44-48, 51, 66, 72, 78, 81 and 83 are canceled claims. Claims 86-92 are new claims. Support for the new claims is found on page 7, lines 25-32. Independent Claim 80 is amended to include the subject matter of Claim 81. Independent Claim 82 is amended to include the subject matter of Claim 83.

No new matter is added.